

AD-A119 069 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19308B MLRS, MISSILE NUMBER BC-111, BC-110, BC-108, BC-105, BC---ETC(U)
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METEOROLOGICAL DATA REPORT

183000 HRS

Station Number BC-111, BC-110, BC-108, BC-106, BC-103, BC-102

Report Number V-289/PQ-29 thru V-294/PQ-34

23 July 1982

by

DONALD L. KELLER

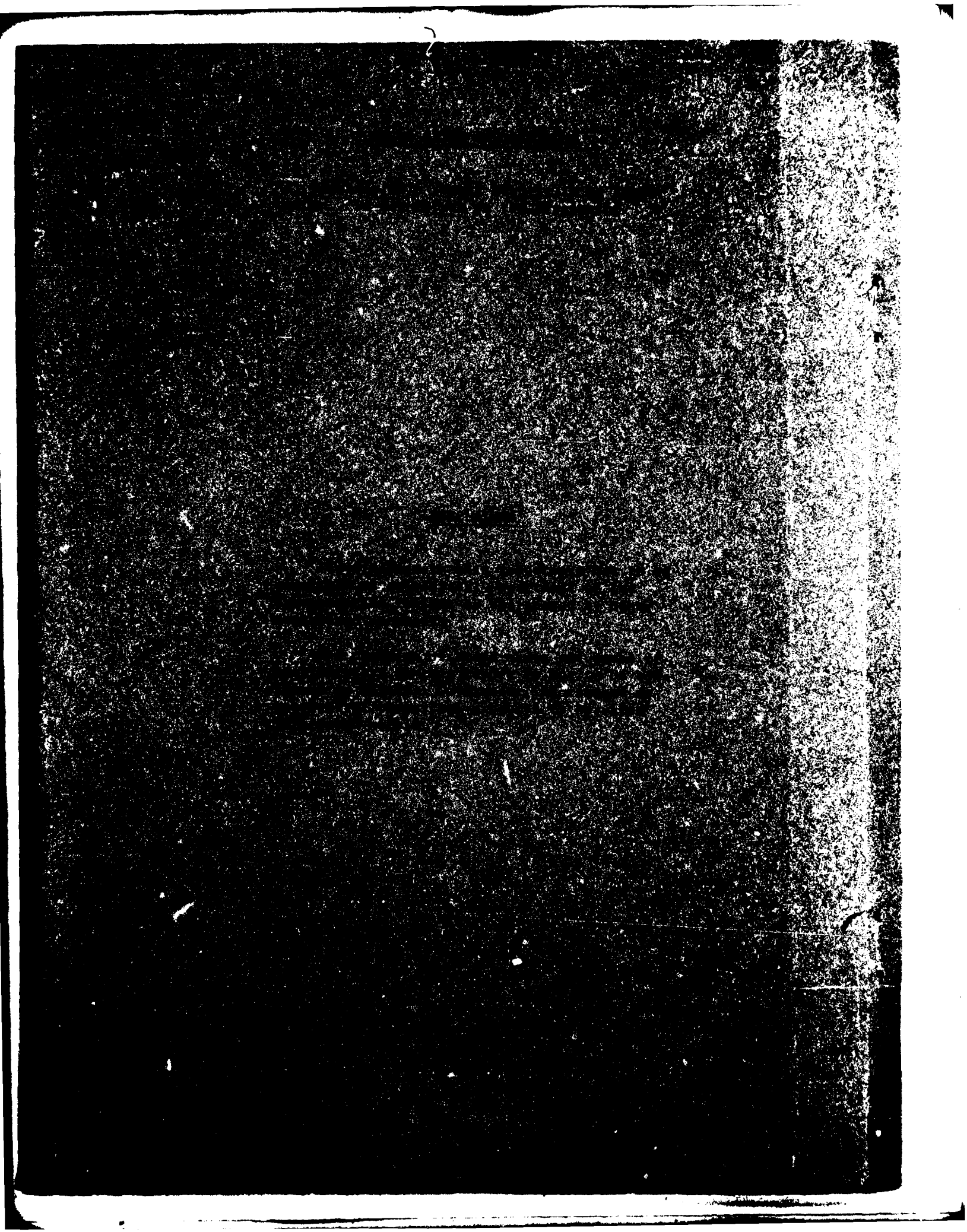
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WINDWARD HILLS LABORATORY
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19308B MLRS, Missile Number BC-111, BC-110, BC-108, BC-105, BC-103, and BC-102, Round Number V-289/PQ-29 thru V-294/PQ-34 are presented in tabular form.		

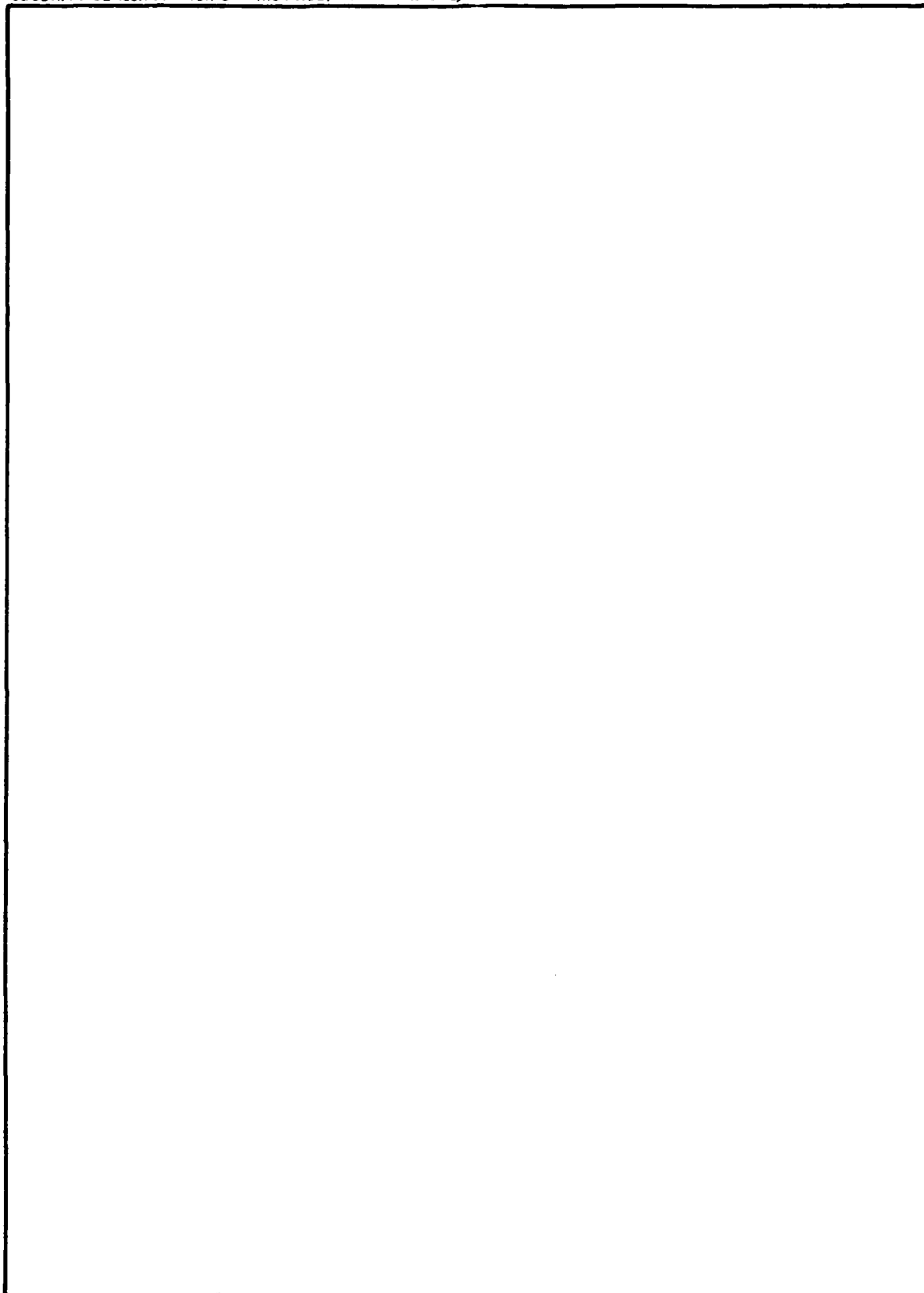
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INTRODUCTION

19308B MLRS, Missile Numbers BC-111, BC-110, BC-108, BC-105, BC-103, and BC-102, Round Numbers V-289/PQ-29 thru V-294/PQ-34, were launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 1215:01, 1215:06, 1215:10, 1215:15, 1215:19, and 1215:24 MDT, 23 July 1982. The scheduled launch times were 1200, 1200:04.5, 1200:09, 1200:13.5, 1200:18, and 1200:22.5 MDT.

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the D-3½ Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

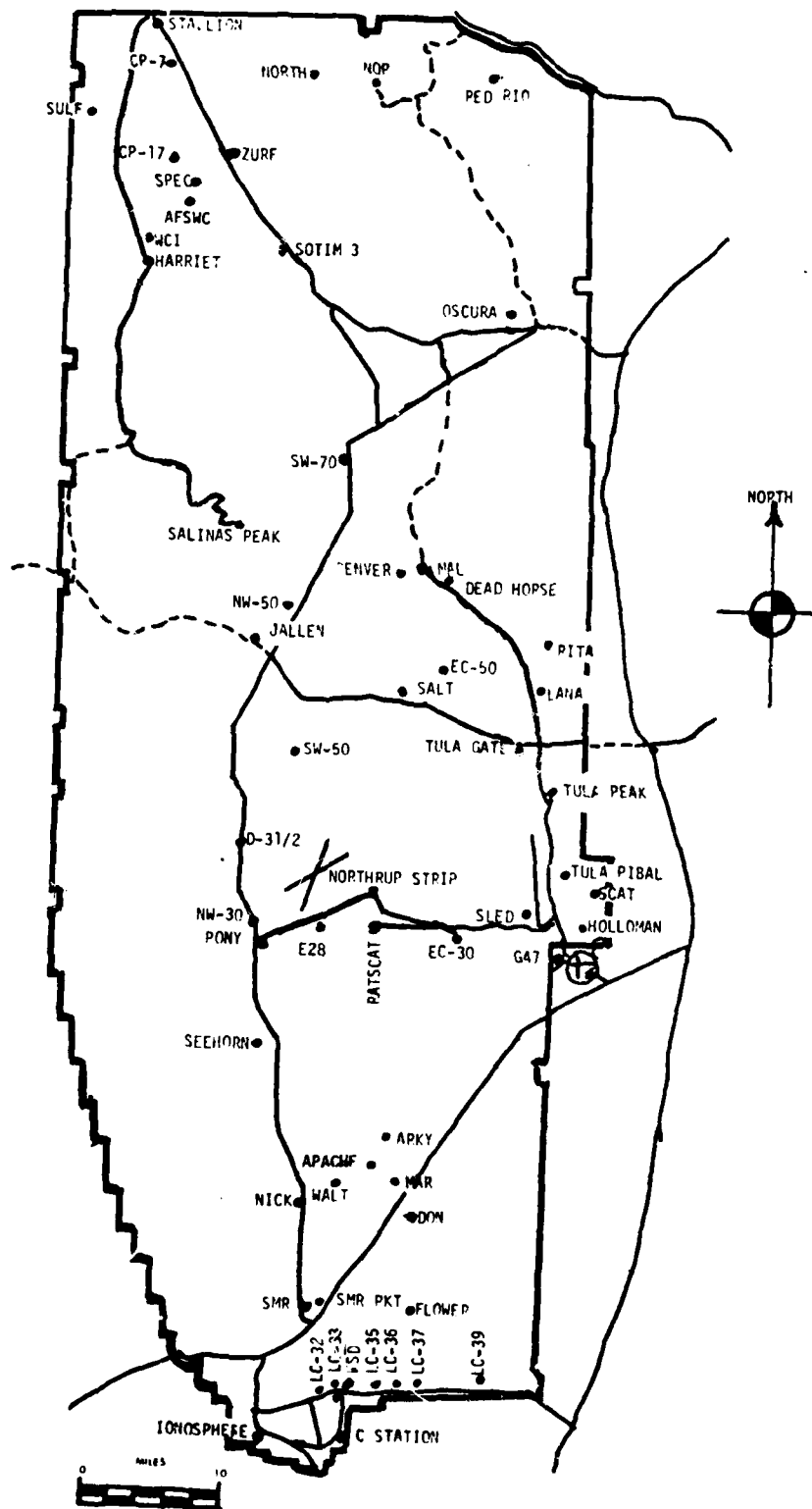
D-3½	2 km
MAL	2 km

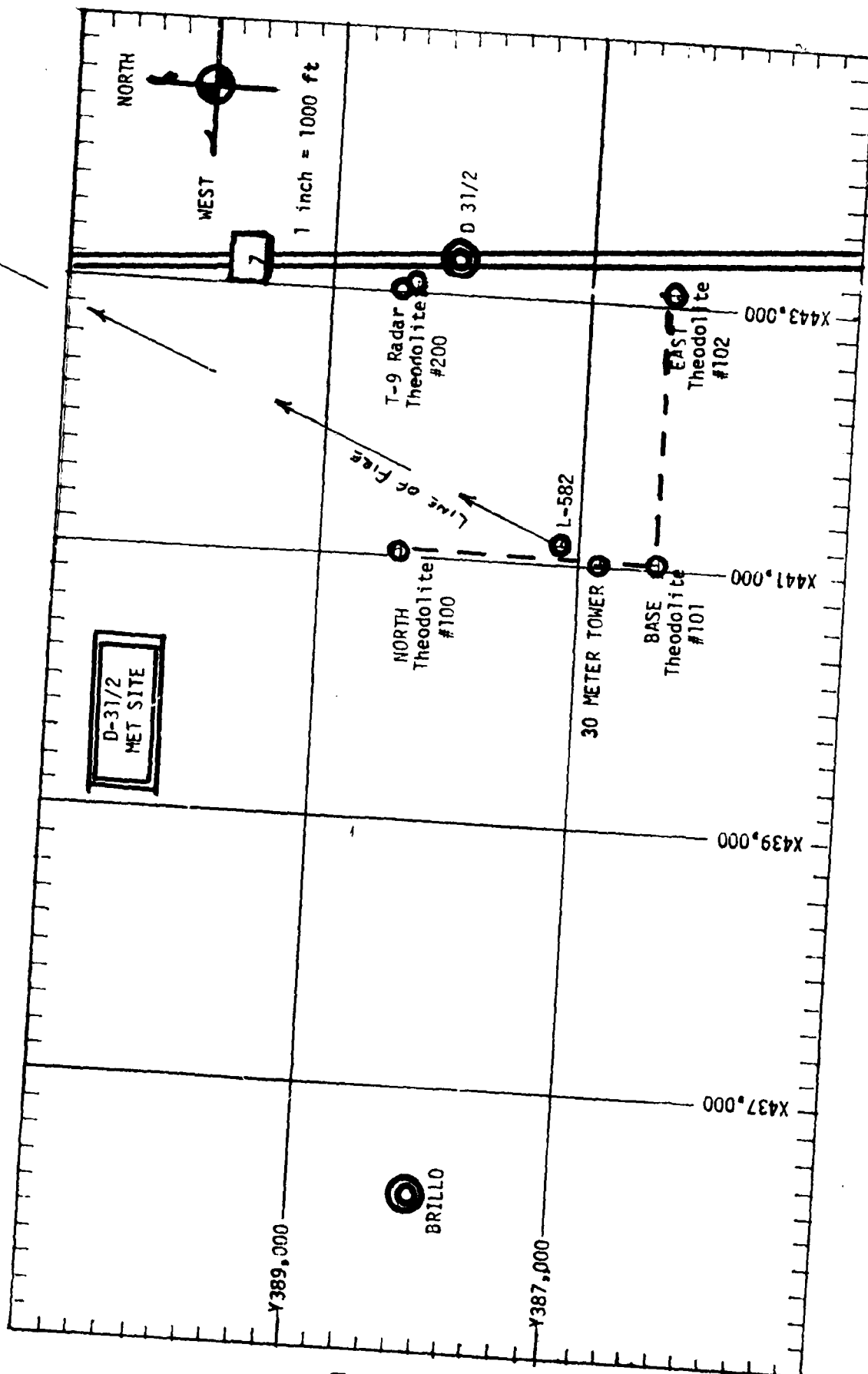
(2) Air structure data (rawinsonde) were collected at the following Met Site:

SITE AND TIME

NW-30	0800 MDT
E-28	0900 MDT
NW-30	1100 MDT
E-28	1215 MDT

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1									
STATION D 3 1/2									
DATE 23		JULY		82		Y= 441,121.6		Y= 387,107.8 H= 4005.2	
DAY		MONTH		YEAR					
TIME	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	DIRECTION	SPEED	CHARACTER	VISIBILITY
M	mbs	OF	OF	HUMIDITY	gm/m ³	degs	kts	kts	ITY
--		OC	OC	%		In			
1215	881.1	34.4	13.6	29	990	140	07		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
NONE	6	SC	6000				

PSYCHROMETRIC COMPUTATION

TIME: MDT	1215	
DRY BULB TEMP.	34.4	
WET BULB TEMP.	20.2	
WET BULB DEPR.	14.2	
DEW POINT	13.6	
RELATIVE HUMID.	29	

23 July 1982

TIME: D-3½
TIME: 1215 MDT

441,053.12
386,316.94
4,008.31

TIME: MAL
TIME: 1219 MDT

509.421.05
495,563.18
4,126.80

TIME	TIME	TIME	TIME	TIME	TIME
1215	140	07	1219	190	04
1216	100	04	1220	077	04
1217	097	04	1221	067	05
1218	111	05	1222	063	05
1219	121	06	1223	057	04
1220	125	06	1224	050	03
1221	130	06	1225	013	02
1222	120	08	1226	351	01
1223	113	10	1227	314	01
1224	091	08	1228	010	02
1225	091	07	1229	037	05
1226	084	12	1230	018	03
1227	084	14	1231	242	02
1228	086	16	1232	180	04
1229	091	15	1233	144	05

All data obtained from single Theodolite Tracked pilot-balloon observations.

TABLE-3

AIMING AND T-TIME COMPUTER MET MESSAGES

23 July 1982

NW-30 0800 MDT	E-28 0900 MDT
METCM1329065	METCM1329064
231400122884	231500119886
00160001 30010884	00124002 29990886
01277004 29940873	01197005 29970876
02293009 29770849	02242005 29780851
03245012 29470811	03133007 29580813
04097011 29080765	04142011 29230767
05134012 28690721	05143014 28760723
06123017 28270679	06137016 28360681
07111018 27810639	07146016 27990641
08128018 27450601	08166017 27610603
09153019 27090564	09164013 27240567
10154013 26800530	10148012 26860532
11140011 26530497	11143013 26510499
12151014 25980451	12209011 26040453
13170027 25310395	13189024 25280397
14188028 24840345	14189030 24790346
15201018 24230300	15187022 24270301
16121012 23460260	16152019 23580261
17122025 22700225	17134019 22870226
18149024 22070193	18129020 22170194
19154022 21340165	19161028 21480166
20160033 20650140	20184042 20780142
21174035 20360119	21193040 20310120
22179029 20580101	22186030 20440102
23191023 20790085	23187027 20670086
24201025 20920073	24213027 21110073
25191022 21290062	25203022 21300062
26159040 21990053	26157034 21940053

TABLE-3 cont'd

AIMING AND T-TIME COMPUTER MET MESSAGES

23 July 1982

NW-30 1100 MDT	E-28 1215 MDT
METCM1329065	METCM1329064
231700122884	231830119885
00320003 30680883	00000000 30700085
01196009 30360873	01325003 30510875
02213004 30100849	02311006 30210851
03212004 29710811	03267005 29840813
04187004 29230765	04229009 29400768
05235006 28780722	05196012 28970724
06203011 28390680	06198018 28530682
07205013 28030640	07221021 28130643
08203011 27620602	08238014 27710604
09207013 27200566	09224011 27250568
10181016 26850531	10175016 26920534
11175013 26550498	11182015 26650501
12180018 26090452	12179017 26150454
13227024 25540396	13240021 25620398
14216022 24960346	14215025 25030348
15192023 24270302	15196034 24310303
16191026 23510262	16212025 23550263
17153023 22870226	17170025 22930227
18159028 22260194	18171032 22350196
19176036 21510166	19197039 21640168
20206037 20780142	20214038 20910143
21202034 20300120	21199032 20320121
22183027 20470102	22197029 20580103
23195029 20760086	23198025 20800087
24215020 21270073	24203025 21230074
25195022 21470063	25206023 21460063
26170032 21800054	26165030 21670054

STATION ALTITUDE 4712.40 FEET MSL
23 JULY 82 0300 HDT
ASCENSION NO. 25

SIGNIFICANT LEVEL DATA

2040220020
NW 3C

TABLE-4

GEODETIC COORDINATES
32.86457 LAT DEG
106.49714 LON DEG

PRESSURE GEOMETRIC ALTITUDE	MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
863.5	4010.4	25.2	11.7	43.0
850.0	5172.0	23.1	9.5	42.0
770.9	7890.0	16.8	6.3	50.0
700.0	10565.1	10.5	4.6	67.0
663.1	12039.7	6.5	2.9	73.0
619.8	13848.9	1.9	-4.2	64.0
614.2	14089.8	1.9	-8.8	45.0
585.4	15358.7	-3.3	-13.2	37.0
556.8	16668.5	-3.6	-14.9	41.0
500.0	19443.5	-7.6	-27.2	19.0
470.7	20979.9	-10.7	-22.8	19.0
439.4	22706.0	-15.1	-28.0	32.0
432.8	23081.8	-16.1	-26.0	42.0
426.8	23427.2	-17.1	-24.0	55.0
420.4	23799.9	-17.5	-31.5	28.0
408.0	24536.0	-18.7	-36.5	19.0
400.0	25020.2	-20.2	-17.6	19.0
389.6	25660.9	-21.5	-18.9	19.0
376.0	26523.4	-21.2	-18.6	19.0
364.6	27269.7	-22.3	-40.0	18.0
354.8	27926.7	-23.8	-41.3	18.0
311.7	31010.8	-28.6	-44.9	19.0
300.0	31908.5	-31.1	-47.5	18.0
281.5	33352.4	-34.1	-49.6	19.0
250.0	36082.3	-40.9		
203.9	40553.1	-50.8		
200.0	40967.8	-50.6		
152.5	46626.4	-63.4		
150.0	46960.7	-64.0		
135.3	49022.9	-68.3		
123.2	50866.9	-70.5		
114.2	52358.8	-68.7		
108.7	53333.2	-69.0		
106.8	53680.3	-69.9		
100.0	54981.5	-67.1		
92.1	56672.5	-64.1		
62.4	59870.4	-66.2		
70.0	62157.1	-63.3		
63.3	64205.1	-62.1		
55.7	67016.9	-54.0		

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

SIGNIFICANT LEVEL DATA
2040220020
NW 30

TABLE-4 cont'd

STATION ALTITUDE 4710.40 FFET MSL
23 JULY 82 0300 HDT
ASCENSION NO. 20

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
50.0	69163.4	-52.0	
31.7	78901.7	-52.9	
30.0	80084.2	-50.5	
25.0	84070.0	-44.6	
22.1	86793.7	-45.9	
20.0	89008.2	-42.9	
15.0	95391.2	-45.9	
14.1	96763.7	-43.2	

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

UPPER AIR DATA
2040220020
NW 30
TABLE-5

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82 0800 HDT
ASCENSION NO. 20

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
4010.4	883.5	25.2	11.7	43.0	1025.5	674.9	90.0	1.0	1.000287
4500.0	868.6	24.3	10.7	42.6	1011.6	673.8	144.6	3.8	1.000281
5000.0	853.6	23.3	9.7	42.1	997.6	672.6	151.1	7.2	1.000274
5500.0	838.7	22.2	9.1	43.1	984.0	671.3	152.4	10.6	1.000270
6000.0	824.1	21.1	8.6	44.5	970.6	670.0	147.1	11.8	1.000265
6500.0	809.7	20.0	8.0	46.0	957.4	668.7	134.8	11.5	1.000261
7000.0	795.5	18.8	7.4	47.4	944.5	667.3	110.2	9.5	1.000256
7500.0	781.6	17.7	6.8	48.9	931.7	666.0	78.3	9.5	1.000252
8000.0	767.8	16.5	6.3	50.7	919.0	664.6	64.5	10.4	1.000248
8500.0	754.1	15.4	6.1	53.9	906.3	663.3	59.1	11.3	1.000245
9000.0	740.6	14.2	5.8	57.1	893.7	661.9	64.5	11.6	1.000242
9500.0	727.4	13.0	5.5	60.2	881.4	660.6	65.6	12.1	1.000238
10000.0	714.4	11.8	5.1	63.4	869.2	659.2	73.4	13.3	1.000235
10500.0	701.6	10.7	4.7	66.6	857.3	657.8	75.3	14.6	1.000231
11000.0	688.9	9.3	4.2	70.2	845.8	656.2	70.9	15.8	1.000228
11500.0	676.4	8.0	3.6	74.0	834.5	654.6	67.0	16.8	1.000224
12000.0	664.1	6.6	3.0	77.7	823.3	653.0	63.2	17.7	1.000220
12500.0	651.8	5.3	1.2	74.4	812.2	651.4	63.0	17.9	1.000213
13000.0	639.8	4.1	-0.8	70.6	801.2	649.7	63.5	17.9	1.000207
13500.0	627.9	2.8	-2.6	66.7	790.4	648.1	65.2	17.4	1.000201
14000.0	616.3	1.9	-6.9	52.1	778.8	646.8	67.6	17.2	1.000192
14500.0	604.7	1.2	-10.1	42.4	766.6	645.8	71.0	17.5	1.000185
15000.0	593.4	0.3	-11.9	39.3	754.7	644.7	76.0	17.9	1.000181
15500.0	582.2	-0.7	-13.4	37.4	743.3	643.5	81.7	18.6	1.000177
16000.0	571.2	-1.9	-14.0	35.0	732.2	642.0	84.4	18.5	1.000174
16500.0	560.4	-3.2	-14.7	40.5	722.2	640.5	86.5	18.1	1.000171
17000.0	549.7	-4.1	-16.1	48.4	710.8	639.4	87.8	16.2	1.000167
17500.0	539.1	-4.8	-18.1	74.4	699.2	638.5	87.6	14.7	1.000163
18000.0	528.8	-5.5	-20.1	30.4	687.7	637.6	86.5	13.6	1.000160
18500.0	518.6	-6.2	-22.3	26.5	676.4	636.7	85.3	12.8	1.000156
19000.0	508.7	-7.0	-24.6	22.5	665.3	635.8	87.6	12.1	1.000153
19500.0	498.9	-7.7	-27.3	15.0	654.4	634.9	79.4	10.7	1.000149
20000.0	489.2	-8.7	-28.1	19.0	644.2	633.6	75.1	9.1	1.000147
20500.0	479.7	-9.7	-28.9	19.0	634.1	632.4	75.8	9.2	1.000144
21000.0	470.3	-10.8	-29.7	15.2	624.2	631.2	77.6	9.7	1.000142
21500.0	461.0	-12.0	-28.9	24.9	614.8	629.7	82.7	11.6	1.000140
22000.0	451.9	-13.3	-26.4	26.7	605.6	628.1	87.1	14.2	1.000138
22500.0	443.0	-14.6	-26.1	30.4	594.6	626.6	87.8	16.6	1.000136
23000.0	434.2	-15.9	-26.4	19.8	587.6	625.1	86.6	18.7	1.000135
23500.0	425.5	-17.2	-25.1	49.7	578.7	623.5	87.1	20.2	1.000133

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82 0800 MDT
ASCENSION NO. 20

UPPER AIR DATA
2040220020
NW 30
TABLE-5 cont'd

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	417.0	-17.8	25.6	568.7	622.6		88.8	1.000129
24500.0	408.6	-16.6	19.4	559.1	621.6		92.2	1.000126
25000.0	400.3	-20.1	19.0	551.1	619.7		97.1	1.000124
25500.0	392.2	-21.2	19.0	542.1	618.5		96.7	1.000122
26000.0	384.2	-21.4	19.0	531.5	618.2		97.5	1.000120
26500.0	376.4	-21.2	19.0	520.3	618.4		99.8	1.000117
27000.0	368.7	-21.9	18.4	511.1	617.6		101.5	1.000115
27500.0	361.1	-22.8	18.0	502.5	616.4		101.0	1.000113
28000.0	353.7	-23.9	18.0	494.3	615.1		103.6	1.000111
28500.0	346.4	-24.7	18.2	485.6	614.1		104.0	1.000109
29000.0	339.2	-25.5	18.3	477.0	613.2		105.3	1.000107
29500.0	332.1	-26.2	18.5	468.5	612.2		107.4	1.000105
30000.0	325.2	-27.0	18.7	460.2	611.2		111.1	1.000103
30500.0	318.5	-27.8	18.8	452.1	610.3		113.5	1.000101
31000.0	311.8	-28.6	19.0	444.1	609.3		115.7	1.000100
31500.0	305.3	-30.0	18.5	437.2	607.6		115.2	1.000098
32000.0	298.8	-31.3	18.1	430.4	605.9		114.1	1.000096
32500.0	292.4	-32.3	18.4	423.0	604.6		111.7	1.000095
33000.0	286.2	-33.4	18.8	415.8	603.3		107.4	1.000093
33500.0	280.1	-34.5	16.0**	408.7	601.9		99.7	1.000091
34000.0	274.0	-35.7	14.5**	402.0	600.3		86.9	1.000090
34500.0	268.0	-37.0	11.0**	395.3	598.7		71.5	1.000088
35000.0	262.2	-38.2	7.5**	388.8	597.2		62.0	1.000087
35500.0	256.5	-39.4	4.1**	382.3	595.6		61.5	1.000085
36000.0	250.9	-40.7	.6**	376.0	594.0		62.0	1.000084
36500.0	245.3	-41.8		369.4	592.5		69.9	1.000082
37000.0	239.8	-42.9		362.8	591.1		71.4	1.000081
37500.0	234.4	-44.0		356.3	589.7		71.9	1.000079
38000.0	229.1	-45.1		350.0	588.3		69.8	1.000078
38500.0	223.9	-46.3		343.8	586.8		66.7	1.000077
39000.0	218.9	-47.4		337.7	585.4		65.4	1.000075
39500.0	213.9	-48.5		331.7	584.0		69.9	1.000074
40000.0	209.1	-49.6		325.8	582.5		71.4	1.000073
40500.0	204.4	-50.7		320.1	581.1		76.4	1.000071
41000.0	199.7	-50.7		312.7	581.1		81.5	1.000070
41500.0	195.0	-51.8		306.8	579.6		87.7	1.000068
42000.0	190.3	-52.9		301.1	578.1		86.4	1.000067
42500.0	185.6	-54.1		295.5	576.6		87.7	1.000066
43000.0	181.4	-55.2		290.0	575.1		89.5	1.000065
43500.0	177.1	-56.3		284.6	573.7		85.7	1.000063

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4700 FEET MSL
23 JULY 82 0800 MDT
ASCENSION NO. 20

UPPER AIR DATA
2040220020
NW 30
TABLE-5 cont'd

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4400.0	173.0	-57.5			279.3	572.2	87.8	18.3	1.000062
4500.0	168.9	-58.6			274.2	570.7	87.1	21.2	1.000061
4500.0	164.9	-59.7			269.1	569.1	86.6	24.4	1.000060
4500.0	161.0	-60.9			264.1	567.6	86.5	27.4	1.000059
4600.0	157.1	-62.0			259.2	566.1	87.1	29.6	1.000058
46500.0	153.4	-63.1			254.5	564.6	87.6	31.9	1.000057
47000.0	149.7	-64.1			249.4	563.3	88.7	32.0	1.000056
47500.0	146.0	-65.1			244.5	561.9	89.9	31.5	1.000054
48000.0	142.4	-66.2			239.7	560.5	92.1	31.8	1.000053
48500.0	138.9	-67.2			234.9	559.1	94.5	32.4	1.000052
49000.0	135.5	-68.3			230.3	557.7	95.4	33.7	1.000051
49500.0	132.1	-68.9			225.2	556.8	95.8	35.3	1.000050
50000.0	128.7	-69.5			220.2	556.0	95.3	35.6	1.000049
50500.0	125.5	-70.1			215.3	555.2	94.3	35.1	1.000048
51000.0	122.4	-70.3			210.2	554.8	93.8	34.5	1.000047
51500.0	119.3	-69.7			204.3	555.6	94.4	33.3	1.000046
52000.0	116.3	-69.1			198.6	556.5	95.0	32.3	1.000044
52500.0	113.4	-68.7			193.2	557.0	95.1	31.5	1.000043
53000.0	110.6	-68.9			188.5	556.8	95.1	30.8	1.000042
53500.0	107.8	-69.4			184.3	556.0	95.5	31.1	1.000041
54000.0	105.1	-69.2			179.5	556.3	95.9	31.8	1.000040
54500.0	102.5	-68.1			174.1	557.8	96.8	32.2	1.000039
55000.0	99.9	-67.1			168.9	559.3	98.2	32.2	1.000038
55500.0	97.4	-66.2			164.0	560.5	99.7	31.6	1.000037
56000.0	95.0	-65.2			159.3	561.7	101.9	28.3	1.000035
56500.0	92.7	-64.3			154.7	563.0	104.7	25.1	1.000034
57000.0	90.4	-64.4			150.9	562.8	107.1	23.3	1.000034
57500.0	88.2	-64.9			147.6	562.2	109.8	21.7	1.000033
58000.0	86.0	-65.4			144.3	561.5	111.2	21.8	1.000032
58500.0	83.9	-65.9			141.0	560.9	111.8	23.1	1.000031
59000.0	81.7	-66.1			137.7	560.6	112.0	24.4	1.000031
59500.0	79.9	-65.6			134.1	561.2	111.7	26.0	1.000030
60000.0	77.9	-65.2			130.5	561.8	111.5	27.5	1.000029
60500.0	76.0	-64.8			127.0	562.4	111.7	27.9	1.000028
61000.0	74.1	-64.3			123.7	563.0	111.9	28.2	1.000026
61500.0	72.3	-63.9			120.4	563.6	111.0	27.9	1.000027
62000.0	70.5	-63.4			117.2	564.2	109.2	27.1	1.000026
62500.0	68.8	-63.1			114.2	564.6	107.4	26.4	1.000025
63000.0	67.2	-62.8			111.2	565.0	106.7	26.5	1.000025
63500.0	65.5	-62.5			108.4	565.4	104.1	26.6	1.000024

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82
ASCENSION NO. 20

UPPER AIR DATA
2040220020
NW 30
TABLE-5 cont'd

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
64000.0	63.9	-62.2		105.6	565.8	105.7	27.0	1.000024
64500.0	62.4	-61.3		102.6	567.1	105.6	27.7	1.000023
65000.0	60.9	-59.6		99.5	569.0	105.5	28.3	1.000022
65500.0	59.5	-58.4		96.5	570.9	101.6	28.1	1.000021
66000.0	58.1	-56.9		93.6	572.9	97.5	28.1	1.000021
66500.0	56.7	-55.5		90.7	574.8	93.9	27.8	1.000020
67000.0	55.3	-54.0		88.0	576.7	91.1	27.1	1.000020
67500.0	54.1	-53.5		85.8	577.3	88.1	26.4	1.000019
68000.0	52.8	-53.1		83.6	577.9	87.7	25.7	1.000019
68500.0	51.6	-52.6		81.5	578.5	87.4	24.9	1.000018
69000.0	50.4	-52.2		79.4	579.1	87.1	23.8	1.000018
69500.0	49.2	-52.0		77.5	579.3	86.7	22.5	1.000017
70000.0	48.1	-52.1		75.8	579.2	86.3	21.5	1.000017
70500.0	47.0	-52.1		74.0	579.2	86.1	21.1	1.000016
71000.0	45.9	-52.2		72.3	579.1	85.8	20.4	1.000016
71500.0	44.8	-52.2		70.7	579.1	85.1	18.7	1.000016
72000.0	43.8	-52.3		69.1	579.0	84.3	17.0	1.000015
72500.0	42.6	-52.3		67.5	578.9	85.0	18.9	1.000015
73000.0	41.8	-52.4		65.9	578.9	85.7	21.1	1.000015
73500.0	40.8	-52.4		64.4	578.8	87.3	29.0	1.000014
74000.0	39.9	-52.4		62.9	578.8	88.6	39.5	1.000014
74500.0	39.0	-52.5		61.5	578.7	89.5	47.8	1.000014
75000.0	38.0	-52.5		60.1	578.6	91.3	48.2	1.000013
75500.0	37.2	-52.6		58.7	578.6	93.0	48.7	1.000013
76000.0	36.3	-52.6		57.4	578.5	94.2	44.9	1.000013
76500.0	35.5	-52.7		56.0	578.5	95.3	39.0	1.000012
77000.0	34.7	-52.7		54.8	578.4	96.7	33.4	1.000012
77500.0	33.8	-52.8		53.5	578.3	98.8	33.0	1.000012
78000.0	33.1	-52.8		52.3	578.3	100.8	32.7	1.000012
78500.0	32.3	-52.9		51.1	578.2	103.1	31.9	1.000011
79000.0	31.6	-52.7		49.9	578.4	105.7	30.6	1.000011
79500.0	30.8	-51.7		48.5	579.8	109.5	29.3	1.000011
80000.0	30.1	-50.7		47.2	581.1	104.9	26.9	1.000010
80500.0	29.4	-49.9		45.9	582.1	107.0	24.5	1.000010
81000.0	28.8	-49.1		44.7	583.1	97.6	22.0	1.000010
81500.0	28.1	-48.4		43.6	584.0	84.2	19.1	1.000010
82000.0	27.5	-47.7		42.5	585.0	71.8	16.9	1.000009
82500.0	26.9	-46.9		41.4	586.0	67.2	17.2	1.000009
83000.0	26.3	-46.2		40.3	586.9	57.8	18.5	1.000009
83500.0	25.7	-45.4		39.3	587.9	52.2	27.0	1.000009

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82 0800 MDT
ASCENSION NO. 20

UPPER AIR DATA
2040220020
NW 30
TABLE-5 cont'd

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
84000.0	25.1	-44.7		38.2	588.8	53.4	21.1	1.000009
84500.0	24.5	-44.8		37.4	588.7	54.0	22.2	1.000008
85000.0	24.0	-45.0		36.6	588.4	54.5	23.2	1.000008
85500.0	23.4	-45.3		35.8	588.1	55.5	25.0	1.000008
86000.0	22.9	-45.5		35.1	587.8	64.7	27.5	1.000008
86500.0	22.4	-45.8		34.3	587.5	69.7	30.3	1.000008
87000.0	21.9	-45.6		33.5	587.6	73.8	33.1	1.000007
87500.0	21.4	-44.9		32.7	588.5	76.7	34.8	1.000007
88000.0	20.9	-44.3		31.9	589.4	79.4	36.6	1.000007
88500.0	20.5	-43.6		31.1	590.3	81.8	38.4	1.000007
89000.0	20.0	-42.9		30.3	591.1	82.5	37.6	1.000007
89500.0	19.6	-43.1		29.6	590.8	82.7	36.0	1.000007
90000.0	19.1	-43.4		29.0	590.5	82.9	34.3	1.000006
90500.0	18.7	-43.6		28.4	590.2	87.7	32.3	1.000006
91000.0	18.3	-43.8		27.8	589.9	85.7	29.6	1.000006
91500.0	17.9	-44.1		27.2	589.6	88.0	27.0	1.000006
92000.0	17.5	-44.3		26.6	589.3	90.8	24.4	1.000006
92500.0	17.1	-44.5		26.0	589.0	91.7	32.2	1.000006
93000.0	16.7	-44.8		25.5	588.7	92.2	40.2	1.000006
93500.0	16.3	-45.0		24.9	588.4	92.5	48.3	1.000006
94000.0	16.0	-45.2		24.4	588.1			1.000005
94500.0	15.6	-45.5		23.9	587.8			1.000005
95000.0	15.3	-45.7		23.4	587.5			1.000005
95500.0	14.9	-45.7		22.9	587.6			1.000005
96000.0	14.6	-44.7		22.3	588.8			1.000005
96500.0	14.3	-43.7		21.7	590.1			1.000005

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82 0800 MDT
ASCENSION NO. 20

MANDATORY LEVELS
2040220020
NW 30
TABLE-6

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPED KNOTS
850.0	5118.	23.1	9.5	42.	151.9	8.0
800.0	6842.	19.2	7.6	47.	119.8	10.1
750.0	8651.	15.0	6.0	55.	60.8	11.4
700.0	10555.	10.5	4.6	67.	74.7	14.7
650.0	12564.	5.1	.9	74.	63.0	17.9
600.0	14692.	.8	-10.9	41.	72.3	17.6
550.0	16966.	-4.1	-16.1	38.	85.9	16.3
500.0	19617.	-7.6	-27.2	19.	79.9	10.9
450.0	22078.	-13.6	-28.3	27.	87.6	14.8
400.0	24979.	-20.2	-37.8	19.	97.1	23.4
350.0	28203.	-24.3	-41.7	18.	103.8	29.4
300.0	31845.	-31.1	-47.5	18.	114.5	18.6
250.0	36004.	-40.9			63.0	15.1
200.0	40869.	-50.6			80.1	25.7
175.0	43684.	-56.9			88.2	18.1
150.0	46834.	-64.0			88.5	32.0
125.0	50437.	-70.2			94.2	15.1
100.0	54812.	-67.1			98.1	12.2
80.0	59266.	-65.7			111.8	25.8
70.0	61944.	-63.3			108.7	26.9
60.0	65073.	-58.9			103.4	28.2
50.0	68903.	-52.0			87.	21.5
40.0	73641.	-52.4			88.4	17.4
30.0	79741.	-50.5			104.5	26.6
25.0	83694.	-44.6			53.4	21.2
20.0	88589.	-42.9			82.5	37.7
15.0	94913.	-45.9				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES
32.9927 LAT DEG
106.40591 LON DEG

SIGNIFICANT LEVEL DATA

204C200083

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TABLE-7

STATION ALTITUDE 2912.75 FEET MSL
23 JULY 81 0900 PDT
ASCENSION NO. 83

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
835.6	25.0	10.6	41.0
875.9	24.4	12.0	46.0
864.2	25.5	13.5	46.0
830.0	24.4	11.7	43.0
838.9	21.0	10.8	52.0
767.6	17.4	8.5	56.0
737.5	11.2	6.1	71.0
700.0	10.7	4.8	67.0
645.0	6.5	-5.2	43.0
627.4	4.6	-6.9	43.0
551.0	-2.7	-16.3	34.0
510.0	-7.5	-22.4	29.0
500.0	-8.6	-24.6	26.0
482.9	-9.0	-26.8	22.0
478.2	-9.6	-27.3	22.0
400.0	-10.5	-26.1	23.0
384.4	-21.2	-27.3	23.0
367.2	-22.5	-28.7	21.0
353.6	-24.0	-40.0	21.0
339.8	-25.3	-41.1	21.0
326.4	-27.8	-43.3	21.0
320.0	-28.2	-43.2	22.0
313.2	-28.2	-43.2	22.0
300.0	-30.5	-45.6	21.0
288.2	-33.0	-47.7	21.0
282.3	-33.7	-46.4	21.0
270.4	-35.6	-50.0	21.0
250.0	-39.7	-53.1	22.0
235.0	-50.2		
223.0	-51.7		
190.2	-53.0		
150.0	-63.2		
123.2	-70.6		
120.8	-71.0		
109.1	-68.3		
100.0	-69.1		
94.7	-66.1		
76.1	-61.1		
70.0	-62.6		
63.2	-61.4		

GEODETIC COORDINATES
 32.89927 LAT DEG
 106.40591 LON DEG

SIGNIFICANT LEVEL DATA
 2040290083
 F-28
 TABLE-7 cont'd

STATION ALTITUDE 3912.75 FEET MSL
 23 JULY 82 0900 HDT
 ASCENSION NO. 83

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
53.7 67696.6	-53.0	
50.0 69218.6	-52.7	
44.5 71700.7	-53.5	

STATION ALTITUDE 3912.75 FEET MSL
 23 JULY 82 0900 MDT
 ASCENSION NO. 83

UPPER AIR DATA
 2040290083
 E-28
 TABLE-8

GEODETIC COORDINATES
 32.89927 LAT DEG
 106.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
3912.7	885.6	25.0	41.0	1029.0	674.6	70.0	1.9	1.000285
4000.0	882.9	24.8	42.4	1026.3	674.4	74.4	2.1	1.000286
4500.0	867.7	25.2	46.0	1006.8	675.0	91.5	2.9	1.000287
5000.0	854.8	24.6	45.2	991.5	674.4	100.6	3.8	1.000281
5500.0	838.1	23.4	47.0	978.4	673.0	106.0	4.8	1.000277
6000.0	823.6	22.2	49.5	965.4	671.6	88.7	5.8	1.000273
6500.0	809.3	21.0	51.9	952.6	670.2	74.4	7.3	1.000269
7000.0	795.2	19.9	53.2	939.6	668.9	74.0	8.7	1.000264
7500.0	781.2	18.8	54.4	926.8	667.6	77.1	9.7	1.000259
8000.0	767.5	17.7	55.6	914.1	666.3	84.6	10.5	1.000254
8500.0	753.9	16.4	58.5	902.2	664.7	85.7	11.5	1.000250
9000.0	740.5	14.9	62.0	890.7	663.0	84.0	12.5	1.000247
9500.0	727.3	13.4	65.6	879.4	661.3	79.7	13.6	1.000243
10000.0	714.3	12.0	69.1	868.3	659.5	75.9	14.7	1.000239
10500.0	701.5	10.8	67.8	856.6	658.0	76.2	15.7	1.000232
11000.0	688.8	9.9	62.3	844.3	656.8	76.0	16.5	1.000224
11500.0	676.2	8.9	56.9	832.1	655.5	75.2	17.0	1.000216
12000.0	663.9	8.0	51.5	820.1	654.2	76.0	17.0	1.000209
12500.0	651.8	7.0	46.1	808.3	653.0	77.8	16.8	1.000202
13000.0	639.9	6.0	43.0	796.8	651.6	87.7	16.4	1.000197
13500.0	628.1	4.7	43.0	785.9	650.1	87.3	16.1	1.000193
14000.0	616.4	3.6	41.6	774.3	648.8	91.6	15.9	1.000189
14500.0	604.8	2.5	40.5	762.9	647.5	93.3	15.9	1.000185
15000.0	593.5	1.5	39.1	751.6	646.2	94.0	15.8	1.000181
15500.0	582.4	.4	37.8	740.5	644.9	93.1	14.9	1.000177
16000.0	571.5	-.6	36.5	729.5	643.6	92.0	13.9	1.000173
16500.0	560.8	-1.7	35.2	718.8	642.3	91.5	12.6	1.000170
17000.0	550.2	-2.8	33.9	708.2	640.9	91.2	11.2	1.000167
17500.0	539.7	-4.0	32.7	697.8	639.5	86.8	11.2	1.000163
18000.0	529.3	-5.2	31.4	687.5	638.0	81.1	12.1	1.000160
18500.0	519.2	-6.4	30.2	677.5	636.6	78.5	12.8	1.000157
19000.0	509.2	-7.6	28.8	667.5	635.1	77.5	13.3	1.000154
19500.0	499.4	-8.6	25.9	657.2	633.8	87.5	13.3	1.000151
20000.0	489.7	-8.8	23.6	645.0	633.5	87.7	13.4	1.000148
20500.0	480.2	-9.4	22.0	633.7	632.9	97.8	17.2	1.000145
21000.0	470.6	-10.6	22.1	624.1	631.4	110.2	11.0	1.000142
21500.0	461.2	-11.8	22.2	614.6	629.9	125.1	9.7	1.000140
22000.0	452.1	-13.0	22.3	605.2	628.5	137.8	9.2	1.000138
22500.0	443.1	-14.3	22.4	596.0	627.0	127.7	10.6	1.000135
23000.0	434.2	-15.5	22.5	586.9	625.5	117.7	12.6	1.000133

STATION ALTITUDE 3912.75 FEET MSL
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GEODETIC COORDINATES
 32.8927 LAT DEG
 106.40591 LON DEG

TABLE-8 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEPT POINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	425.6	-16.7	22.7	578.0	624.0	108.4	15.7	1.000131
24000.0	417.2	-17.9	22.8	569.3	622.5	104.9	18.4	1.000129
24500.0	408.9	-19.2	22.9	560.6	621.0	107.4	20.9	1.000127
25000.0	400.7	-20.4	23.0	552.2	619.5	104.2	23.0	1.000125
25500.0	392.6	-21.4	23.0	543.1	618.2	105.5	25.1	1.000122
26000.0	384.6	-22.0	22.6	533.3	617.5	108.9	26.9	1.000120
26500.0	376.7	-22.2	21.9	522.9	617.2	110.6	28.1	1.000118
27000.0	369.0	-22.4	21.2	512.6	616.9	109.8	28.5	1.000115
27500.0	361.4	-23.1	21.0	503.5	616.1	107.8	29.2	1.000113
28000.0	354.0	-24.0	21.0	494.8	615.0	104.9	30.2	1.000111
28500.0	346.7	-24.6	21.0	485.9	614.2	104.1	30.9	1.000109
29000.0	339.5	-25.3	21.0	477.2	613.3	105.0	31.3	1.000107
29500.0	332.5	-26.7	21.0	469.8	611.7	106.2	30.6	1.000106
30000.0	325.6	-27.9	21.1	462.3	610.2	108.2	28.4	1.000104
30500.0	318.7	-28.2	22.0	453.2	609.8	109.7	26.2	1.000102
31000.0	312.1	-28.4	21.4	444.1	609.5	110.1	23.9	1.000100
31500.0	305.5	-29.5	21.4	436.8	608.1	108.6	22.1	1.000098
32000.0	299.1	-30.7	21.0	429.6	606.6	105.0	20.6	1.000096
32500.0	292.7	-32.0	21.0	422.9	605.0	100.8	20.7	1.000095
33000.0	286.5	-33.2	21.0	415.9	603.5	95.8	20.9	1.000093
33500.0	280.3	-34.0	21.0	408.3	602.5	97.8	20.0	1.000091
34000.0	274.3	-35.0	21.0	401.2	601.3	85.9	19.2	1.000090
34500.0	268.4	-36.0	21.1	394.2	600.0	87.1	18.5	1.000088
35000.0	262.5	-37.1	21.4	387.5	598.5	84.2	17.8	1.000087
35500.0	256.8	-38.3	21.7	380.9	597.1	84.7	17.9	1.000085
36000.0	251.2	-39.4	21.5	374.5	595.6	87.1	18.0	1.000084
36500.0	245.6	-40.6	20.0**	368.0	594.1	87.3	17.6	1.000082
37000.0	240.1	-41.8	17.5**	361.6	592.5	80.2	17.0	1.000081
37500.0	234.7	-43.0	15.0**	355.7	591.0	76.7	16.4	1.000079
38000.0	229.5	-44.2	12.5**	349.2	589.4	72.4	16.0	1.000078
38500.0	224.3	-45.4	10.0**	343.2	587.9	67.9	15.7	1.000077
39000.0	219.3	-46.6	7.5**	337.2	586.3	67.0	16.0	1.000075
39500.0	214.4	-47.6	4.9**	331.6	584.8	67.5	16.5	1.000074
40000.0	209.5	-49.0	2.4**	325.7	583.2	61.7	17.3	1.000073
40500.0	204.8	-50.2		320.1	581.6	67.0	18.8	1.000071
41000.0	200.1	-51.7		314.8	579.8	64.9	20.2	1.000070
41500.0	195.5	-52.3		309.3	579.0	73.2	21.0	1.000069
42000.0	190.9	-53.9		303.0	578.2	87.8	22.2	1.000067
42500.0	186.4	-53.9		296.1	576.9	87.7	23.5	1.000066
43000.0	182.0	-54.9		290.5	575.5	89.9	25.0	1.000065

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3912.75 FEET MSL
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GEODETIC COORDINATES
 32.89927 LAT DEG
 106.40591 LON DEG

TABLE-8 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	
43500.0	177.7	-55.9			284.9	574.2	87.9	25.5	1.000043
44000.0	173.4	-57.0			279.5	572.8	86.4	26.2	1.000062
44500.0	169.3	-58.0			274.1	571.4	89.6	28.9	1.000061
45000.0	165.3	-59.0			268.9	570.1	92.1	31.7	1.000060
45500.0	161.3	-60.1			263.8	568.7	93.8	35.0	1.000059
46000.0	157.5	-61.1			258.8	567.3	95.5	37.6	1.000058
46500.0	153.8	-62.1			253.8	565.9	97.5	39.2	1.000057
47000.0	150.1	-63.2			249.0	564.5	99.5	40.6	1.000055
47500.0	146.4	-64.1			244.0	563.2	101.8	41.3	1.000054
48000.0	142.8	-65.1			239.0	562.0	103.7	41.9	1.000053
48500.0	139.2	-66.0			234.1	560.7	104.9	42.4	1.000052
49000.0	135.8	-67.0			229.4	559.4	106.2	42.9	1.000051
49500.0	132.4	-67.9			224.7	558.1	107.7	43.7	1.000050
50000.0	129.1	-68.9			220.2	556.8	109.2	44.5	1.000049
50500.0	125.9	-69.8			215.7	555.5	110.1	44.1	1.000048
51000.0	122.8	-70.7			211.3	554.3	110.1	41.5	1.000047
51500.0	119.7	-70.6			206.1	554.2	110.0	38.9	1.000046
52000.0	116.7	-70.3			200.4	554.8	107.7	36.7	1.000045
52500.0	113.7	-69.8			194.9	555.5	105.1	34.5	1.000043
53000.0	110.9	-69.3			189.5	556.2	104.6	34.0	1.000042
53500.0	108.1	-68.8			184.3	556.9	104.5	33.9	1.000041
54000.0	105.4	-68.9			179.8	556.8	105.0	32.9	1.000040
54500.0	102.8	-69.0			175.3	556.6	106.0	31.6	1.000039
55000.0	100.2	-69.1			171.0	556.5	106.6	30.1	1.000038
55500.0	97.7	-68.6			166.5	557.0	106.2	28.4	1.000037
56000.0	95.3	-68.4			162.1	557.5	105.8	26.6	1.000036
56500.0	92.9	-68.0			157.8	557.9	105.9	24.8	1.000035
57000.0	90.6	-67.7			153.6	558.4	106.2	23.0	1.000034
57500.0	88.3	-67.3			149.5	558.9	104.9	23.0	1.000033
58000.0	86.1	-66.9			145.5	559.4	107.4	24.8	1.000032
58500.0	84.0	-66.3			141.4	560.4	107.0	27.0	1.000032
59000.0	81.9	-65.0			137.1	562.1	107.6	29.9	1.000031
59500.0	79.9	-63.7			133.9	563.9	106.3	31.2	1.000030
60000.0	78.0	-62.4			128.9	565.6	111.7	30.2	1.000029
60500.0	76.1	-61.2			125.1	567.1	116.6	29.1	1.000028
61000.0	74.3	-61.6			122.3	566.0	119.4	27.3	1.000027
61500.0	72.5	-62.0			119.6	566.0	122.4	25.7	1.000027
62000.0	70.7	-62.4			114.9	565.5	127.7	24.9	1.000026
62500.0	69.0	-62.4			114.1	565.5	127.7	24.2	1.000025
63000.0	67.3	-62.1			111.2	565.9	124.4	23.7	1.000025

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GEODETIC COORDINATES
 37.89927 LAT DEG
 106.40591 LON DEG

TABLE-8 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	65.7	-61.8		108.3	566.3	125.8	23.2	1.000074
64000.0	64.1	-61.6		105.5	566.7	125.9	22.1	1.000023
64500.0	62.6	-63.8		102.7	567.7	123.4	20.7	1.000023
65000.0	61.1	-59.6		99.7	569.3	117.0	21.2	1.000022
65500.0	59.7	-58.4		96.8	570.9	99.0	24.5	1.000072
66000.0	58.2	-57.1		91.9	572.6	97.8	29.2	1.000021
66500.0	56.9	-55.9		71.2	574.2	89.7	34.5	1.000020
67000.0	55.5	-54.7		88.5	575.8	87.0	38.8	1.000020
67500.0	54.2	-53.5		86.0	577.4	88.6	36.7	1.000019
68000.0	52.9	-52.9		81.8	578.1	90.5	34.6	1.000019
68500.0	51.7	-52.8		81.8	578.2	89.6	31.3	1.000018
69000.0	50.5	-52.7		79.8	578.4	88.7	28.1	1.000016
69500.0	49.3	-52.8		78.0	578.3	87.1	27.3	1.000017
70000.0	48.2	-53.0		76.3	573.1			1.000017
70500.0	47.1	-53.1		74.5	577.9			1.000017
71000.0	46.0	-53.3		72.9	577.7			1.000016
71500.0	44.9	-53.4		71.2	577.5			1.000016

STATION ALTITUDE 3912.75 FEET MSL
23 JULY 82 0900 MDT
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MANDATORY LEVELS
2040290083
E-28
TABLE-9

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CF	DEWPOINT IN GRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5093.	24.4	11.7	45.	101.8	4.0
800.0	6825.	20.3	10.4	53.	74.2	8.2
750.0	8642.	15.9	8.1	60.	85.2	11.8
700.0	10550.	10.7	4.8	67.	76.2	15.8
650.0	12566.	6.9	-4.1	45.	78.5	16.7
600.0	14705.	2.1	-10.1	40.	93.6	15.9
550.0	16990.	-2.8	-16.5	36.	91.2	11.1
500.0	19441.	-8.6	-24.6	26.	80.2	13.3
450.0	22103.	-13.3	-30.3	22.	135.0	9.5
400.0	25005.	-20.5	-36.1	23.	104.3	23.2
350.0	28223.	-24.3	-40.3	21.	103.7	30.8
300.0	31863.	-30.5	-45.6	21.	106.4	20.9
250.0	36034.	-39.7	-53.1	22.	85.1	18.0
200.0	40913.	-51.7			64.7	20.2
175.0	43727.	-56.6			86.5	25.8
150.0	46886.	-63.2			99.5	40.6
125.0	50504.	-70.1			110.1	43.4
100.0	54867.	-69.1			106.6	50.1
80.0	59284.	-63.7			105.8	31.3
70.0	61992.	-62.6			122.3	24.7
60.0	65130.	-58.7			103.2	23.3
50.0	68958.	-52.7			87.8	26.9

GEODETIC COORDINATES
32.28497 LAT DEG
106.49714 LON DEG

SIGNIFICANT LEVEL DATA

2040220021

NW 30

TABLE-10

STATION ALTITUDE 4010.40 FEET MSL

23 JULY 82

ASCENSION NO. 21 1100 MDT

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
883.1	31.9	11.1	28.0
876.4	28.6	11.2	34.0
850.0	26.2	11.2	39.0
779.4	18.9	8.8	52.0
720.1	13.0	6.1	63.0
700.0	11.8	3	45.0
651.8	7.0	-3.5	47.0
640.6	6.7	-6.3	39.0
569.2	-1.6	-9.0	57.0
557.6	-2.9	-15.2	38.0
500.0	-7.9	-23.6	27.0
466.8	-8.4	-26.8	21.0
406.8	-16.0	-34.4	22.0
404.9	-16.9	-34.5	20.0
400.0	-17.0	-34.5	20.0
394.4	-17.4	-35.4	19.0
370.2	-20.4	-36.5	22.0
300.0	-30.8	-46.3	20.0
272.0	-34.7	-49.6	20.0
250.0	-40.7		
231.6	-44.0		
227.0	-44.0		
200.0	-49.1		
153.6	-62.0		
150.0	-63.2		
137.0	-66.8		
126.6	-68.3		
116.4	-71.4		
109.8	-72.5		
106.4	-67.8		
102.4	-67.4		
100.0	-68.7		
96.0	-69.1		
90.4	-66.0		
87.4	-67.0		
78.0	-60.5		
70.0	-59.0		
62.8	-59.0		
50.0	-53.6		
36.5	-54.4		

GEODETIC COORDINATES
 37.96497 LAT DEG
 106.49714 LON DEG

SIGNIFICANT LEVEL DATA
 2040220021
 NW 30

TABLE-10 cont'd

STATION ALTITUDE 4710.40 FEET MSL
 23 JULY 82 1100 MDT
 ASCENSION NO. 21

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR	DEWPOINT DEGREES CENTIGRADE	
30.0 80333.9	-46.4		
29.2 80929.1	-45.4		
23.2 85982.6	-47.5		
20.0 89244.8	-45.4		
14.3 96693.6	-43.1		

STATION ALTITUDE 4010.40 FEET MSL
 23 JULY 82
 ASCENSION NO. 21

UPPER AIR DATA
 2040220021
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 TABLE-11

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE WETPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4510.4	883.1	31.9	11.1	28.0	1.0028	682.4	180.0	2.9	1.000277
4500.0	868.4	27.9	11.2	35.5	999.1	677.9	160.9	2.8	1.000278
5000.0	853.6	26.5	11.2	36.3	986.4	676.4	159.7	2.7	1.000276
5500.0	838.9	25.1	10.9	41.0	974.1	674.8	147.5	2.7	1.000273
6000.0	824.3	23.6	10.5	43.6	962.0	673.1	136.9	2.9	1.000269
6500.0	810.1	22.1	10.1	46.2	950.1	671.4	127.7	3.1	1.000265
7000.0	796.0	20.7	9.5	48.8	938.4	669.7	110.2	3.5	1.000261
7500.0	782.2	19.2	9.0	51.5	926.9	668.0	112.4	4.2	1.000257
8000.0	768.4	17.8	8.4	54.0	914.9	666.4	110.7	4.3	1.000253
8500.0	754.8	16.5	7.8	56.5	903.0	664.8	117.8	4.0	1.000249
9000.0	741.5	15.2	7.2	58.9	891.2	663.2	114.1	3.9	1.000245
9500.0	728.3	13.8	6.6	61.4	879.6	661.7	122.8	4.1	1.000241
10000.0	715.3	12.7	4.9	58.8	867.7	660.2	123.9	7.4	1.000233
10500.0	702.5	12.0	1.1	47.3	855.3	657.0	122.9	9.8	1.000221
11000.0	689.8	10.8	-3.5	45.4	843.5	657.5	119.5	10.8	1.000216
11500.0	677.2	9.6	-1.5	45.9	831.9	656.1	116.3	11.2	1.000211
12000.0	664.9	8.3	-2.5	46.4	820.5	654.6	117.8	11.1	1.000207
12500.0	652.9	7.1	-3.4	47.0	809.3	653.1	114.1	11.7	1.000203
13000.0	640.9	6.7	-6.2	39.2	796.0	652.5	117.0	12.0	1.000196
13500.0	629.0	5.4	-6.5	41.8	784.8	650.9	114.0	11.4	1.000193
14000.0	617.3	4.1	-6.9	44.7	773.9	649.4	117.8	11.0	1.000190
14500.0	605.8	2.8	-7.3	47.5	763.1	647.8	117.9	10.7	1.000186
15000.0	594.5	1.5	-7.7	50.4	752.5	646.3	114.8	11.5	1.000185
15500.0	583.4	.1	-8.2	53.2	747.1	644.7	115.6	12.2	1.000182
16000.0	572.6	-1.2	-8.6	56.1	731.9	643.1	116.2	12.8	1.000179
16500.0	561.8	-2.2	-11.7	48.0	721.1	641.8	115.3	13.0	1.000174
17000.0	551.1	-3.1	-13.5	37.5	710.1	640.6	112.5	12.7	1.000168
17500.0	540.5	-4.1	-17.1	35.4	699.0	639.4	107.7	12.9	1.000164
18000.0	530.1	-5.0	-18.6	32.3	688.1	638.2	101.6	13.5	1.000161
18500.0	520.0	-6.0	-20.2	29.1	677.4	637.1	99.4	14.4	1.000157
19000.0	510.0	-6.9	-21.9	27.0	666.8	635.9	99.8	15.2	1.000154
19500.0	500.2	-7.9	-23.5	27.0	656.2	634.7	97.1	15.7	1.000151
20000.0	490.3	-8.3	-25.8	22.7	644.7	634.2	97.4	16.2	1.000146
20500.0	480.9	-9.1	-27.3	21.1	634.0	633.3	97.0	16.5	1.000143
21000.0	471.4	-10.1	-28.1	21.2	624.0	632.0	94.4	16.9	1.000142
21500.0	462.1	-11.2	-29.0	19.3	614.2	630.7	98.8	17.4	1.000140
22000.0	453.0	-12.3	-29.8	19.4	604.6	629.4	101.9	18.0	1.000136
22500.0	444.0	-13.3	-30.7	21.5	595.1	628.1	107.7	18.4	1.000135
23000.0	435.2	-14.4	-31.5	21.6	585.7	626.8	107.5	19.0	1.000133
23500.0	426.6	-15.5	-32.4	21.7	576.5	625.5	107.4	20.0	1.000131

STATION ALTITUDE 4010.40 FEET MSL
 23 JULY 82 1100 MDT
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UPPER AIR DATA
 2040220021
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE-11 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	418.2	-16.5	21.8	567.5	624.2	113.6	21.2	1.000129
24500.0	409.9	-17.6	22.0	558.6	622.9	121.5	23.0	1.000126
25000.0	401.8	-17.0	20.0	546.2	623.6	127.8	24.7	1.000124
25500.0	393.7	-17.5	19.1	536.3	623.0	132.3	25.4	1.000121
26000.0	385.8	-18.4	20.0	527.5	621.8	134.2	24.9	1.000119
26500.0	378.0	-19.4	21.0	518.8	620.6	137.7	23.2	1.000117
27000.0	370.3	-20.4	22.0	510.3	619.5	131.5	22.5	1.000115
27500.0	362.7	-21.4	21.8	501.8	618.2	128.6	22.1	1.000113
28000.0	355.1	-22.5	21.6	493.4	616.9	124.9	22.3	1.000111
28500.0	347.8	-23.5	21.4	485.2	615.6	121.1	22.6	1.000109
29000.0	340.6	-24.5	21.2	477.1	614.3	117.7	22.3	1.000107
29500.0	333.5	-25.6	21.0	469.2	613.1	114.3	22.0	1.000105
30000.0	326.6	-26.6	20.8	461.4	611.8	113.2	22.3	1.000104
30500.0	319.8	-27.6	20.6	453.7	610.5	112.3	22.7	1.000102
31000.0	313.2	-28.7	20.4	446.2	609.2	110.7	23.2	1.000100
31500.0	306.7	-29.7	20.2	438.8	607.9	109.1	23.7	1.000098
32000.0	300.4	-30.7	20.0	431.6	606.6	107.2	23.5	1.000097
32500.0	294.0	-31.6	20.0	423.9	605.5	105.0	22.7	1.000095
33000.0	287.7	-32.5	20.0	416.4	604.4	103.7	22.4	1.000093
33500.0	281.6	-33.3	20.0	408.9	603.3	105.0	23.3	1.000092
34000.0	275.5	-34.2	20.0	401.7	602.3	106.5	24.6	1.000090
34500.0	269.0	-35.3	17.9**	394.9	600.8	108.7	27.4	1.000088
35000.0	263.8	-36.9	12.7**	388.9	598.8	109.9	29.5	1.000087
35500.0	258.0	-38.5	7.5**	383.0	596.8	108.5	27.9	1.000085
36000.0	252.4	-40.0	2.3**	377.1	594.8	106.8	26.1	1.000084
36500.0	246.8	-41.3		370.8	593.3	102.4	22.2	1.000083
37000.0	241.4	-42.2		364.1	592.0	96.5	18.9	1.000081
37500.0	236.0	-43.2		357.5	590.8	97.9	19.8	1.000080
38000.0	230.7	-44.0		350.8	589.7	89.5	21.0	1.000078
38500.0	225.6	-44.3		343.3	589.4	85.7	24.2	1.000076
39000.0	220.5	-45.2		336.9	588.2	87.3	27.4	1.000075
39500.0	215.5	-46.1		330.6	587.0	87.6	28.0	1.000074
40000.0	210.6	-47.0		324.5	585.8	84.8	28.6	1.000072
40500.0	205.9	-47.9		318.4	584.6	86.5	28.3	1.000071
41000.0	201.2	-48.9		312.5	583.4	88.6	27.5	1.000070
41500.0	196.5	-50.0		306.7	582.0	87.5	27.4	1.000068
42000.0	191.9	-51.1		301.1	580.5	87.0	28.1	1.000067
42500.0	187.4	-52.3		295.6	579.0	86.4	28.9	1.000066
43000.0	183.0	-53.4		290.1	577.4	97.7	30.2	1.000065
43500.0	178.7	-54.6		284.8	575.9	97.4	31.5	1.000063

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82 1100 MDT
ASCENSION NO. 21

UPPER AIR DATA
2040220021
NW 30
TABLE-11 cont'd

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	174.5	-55.8		279.6	574.4	94.9	33.8	1.000062
44500.0	170.4	-56.9		274.5	572.8	97.6	37.1	1.000061
45000.0	166.4	-58.1		269.5	571.3	99.8	39.9	1.000060
45500.0	162.5	-59.3		264.6	569.8	101.7	40.6	1.000059
46000.0	158.6	-60.4		259.8	568.2	103.5	41.4	1.000058
46500.0	154.9	-61.6		255.1	566.6	106.3	39.1	1.000057
47000.0	151.2	-62.8		250.4	565.0	109.6	36.6	1.000056
47500.0	147.5	-63.9		245.5	563.6	112.7	35.9	1.000055
48000.0	143.9	-64.9		240.6	562.3	115.5	36.2	1.000054
48500.0	140.3	-65.8		235.8	560.9	117.7	36.4	1.000053
49000.0	136.9	-66.8		231.1	559.6	117.2	36.5	1.000051
49500.0	133.5	-67.5		226.0	558.7	120.4	36.3	1.000050
50000.0	130.1	-68.1		221.1	557.9	120.2	34.8	1.000049
50500.0	126.9	-68.7		216.3	557.0	123.0	33.4	1.000048
51000.0	123.7	-69.5		211.6	555.9	118.6	29.8	1.000047
51500.0	120.6	-70.3		207.1	554.9	116.6	26.1	1.000046
52000.0	117.6	-71.1		202.7	553.8	113.3	24.4	1.000045
52500.0	114.6	-71.2		197.7	553.7	109.2	24.3	1.000044
53000.0	111.7	-70.8		192.3	554.2	105.5	24.9	1.000043
53500.0	108.9	-69.8		186.5	555.6	103.7	27.1	1.000042
54000.0	106.2	-67.8		180.1	558.3	101.5	29.4	1.000040
54500.0	103.5	-67.5		175.4	558.7	101.7	29.0	1.000039
55000.0	101.0	-68.2		171.6	557.8	102.2	28.3	1.000038
55500.0	98.4	-68.9		167.8	556.8	104.0	28.3	1.000037
56000.0	96.0	-69.1		163.8	556.5	107.0	28.9	1.000036
56500.0	93.6	-67.8		158.8	558.3	105.5	29.7	1.000035
57000.0	91.3	-56.5		153.8	560.0	105.7	31.0	1.000034
57500.0	89.0	-66.6		150.1	560.0	108.0	32.3	1.000033
58000.0	86.8	-66.8		146.6	559.6	107.8	34.0	1.000033
58500.0	84.7	-65.4		142.0	561.6	107.8	36.0	1.000032
59000.0	82.6	-63.9		137.6	563.5	107.6	37.4	1.000031
59500.0	80.6	-62.5		133.3	565.4	111.5	36.7	1.000030
60000.0	78.6	-61.1		129.2	567.3	117.0	35.3	1.000029
60500.0	76.7	-60.4		125.6	568.3	116.6	31.7	1.000028
61000.0	74.9	-60.0		122.4	568.8	117.6	26.7	1.000027
61500.0	73.1	-59.6		119.3	569.2	119.0	21.7	1.000027
62000.0	71.4	-59.3		116.2	569.7	125.9	14.6	1.000026
62500.0	69.7	-59.0		113.7	570.1	143.3	9.0	1.000025
63000.0	68.0	-59.1		110.6	570.0	176.5	5.4	1.000025
63500.0	66.4	-59.1		108.0	570.0	147.2	7.9	1.000024

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82
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UPPER AIR DATA
2040220021
NW 30
TABLE-11 cont'd

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
64000.0	64.8	-59.1		105.5	569.9	130.5	11.6	1.000023
64500.0	63.2	-59.2		103.0	569.9	117.0	17.9	1.000023
65000.0	61.7	-58.8		100.3	570.4	107.8	26.8	1.000022
65500.0	60.3	-58.2		97.7	571.2	103.3	36.1	1.000022
66000.0	58.9	-57.6		95.1	571.9	101.2	37.4	1.000021
66500.0	57.5	-57.0		92.7	572.7	99.3	34.7	1.000021
67000.0	56.1	-56.4		90.2	573.5	97.0	32.1	1.000020
67500.0	54.8	-55.9		87.9	574.3	96.2	31.4	1.000020
68000.0	53.5	-55.3		85.6	575.0	95.9	31.3	1.000019
68500.0	52.3	-54.7		83.3	575.8	95.6	31.2	1.000019
69000.0	51.0	-54.1		81.1	576.6	95.7	33.4	1.000018
69500.0	49.8	-53.6		79.1	577.2	95.7	36.0	1.000018
70000.0	48.7	-53.7		77.2	577.2	95.8	38.6	1.000017
70500.0	47.5	-53.7		75.5	577.1	94.9	35.0	1.000017
71000.0	46.4	-53.8		73.7	577.0	93.7	30.7	1.000016
71500.0	45.3	-53.8		72.0	576.9	92.0	26.4	1.000016
72000.0	44.3	-53.9		70.4	576.8	91.2	25.5	1.000016
72500.0	43.3	-54.0		68.7	576.8	90.6	25.0	1.000015
73000.0	42.2	-54.0		67.2	576.7	90.0	24.5	1.000015
73500.0	41.3	-54.1		65.6	576.6	90.4	28.1	1.000015
74000.0	40.3	-54.1		64.1	576.5	90.9	32.1	1.000014
74500.0	39.4	-54.2		62.6	576.4	91.2	36.2	1.000014
75000.0	38.4	-54.3		61.2	576.4	90.5	35.5	1.000014
75500.0	37.6	-54.3		59.8	576.3	89.7	34.2	1.000013
76000.0	36.7	-54.4		58.4	576.2	88.8	33.0	1.000013
76500.0	35.8	-54.6		56.9	577.2	91.4	34.8	1.000013
77000.0	35.0	-54.7		55.3	578.4	94.0	37.1	1.000012
77500.0	34.2	-54.8		53.8	579.7	96.4	39.4	1.000012
78000.0	33.4	-54.8		52.4	580.9	96.6	39.5	1.000012
78500.0	32.7	-49.9		51.0	582.1	96.3	39.1	1.000011
79000.0	31.9	-48.9		49.5	583.4	96.1	38.7	1.000011
79500.0	31.2	-48.0		48.2	584.6	95.4	36.7	1.000011
80000.0	30.5	-47.0		46.9	585.8	94.4	34.1	1.000010
80500.0	29.8	-46.1		45.7	587.0	93.7	31.5	1.000010
81000.0	29.1	-45.4		44.5	587.9	93.0	29.3	1.000010
81500.0	28.5	-45.6		43.6	587.6	92.4	28.1	1.000010
82000.0	27.8	-45.8		42.5	587.4	89.7	26.9	1.000009
82500.0	27.2	-46.1		41.7	587.1	84.8	25.8	1.000009
83000.0	26.6	-46.3		40.8	586.8	87.6	25.2	1.000009
83500.0	26.0	-46.5		39.9	586.5	87.0	24.8	1.000009

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

UPPER AIR DATA
2040220021
NW 30
TABLE-11 cont'd

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82 1100 HDT
ASCENSION NO. 21

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
84000.0	25.4	-46.7		39.1	586.3	76.2	24.5	1.000009
84500.0	24.8	-46.9		38.2	586.0	77.8	25.4	1.000009
85000.0	24.3	-47.1		37.4	585.7	77.7	27.6	1.000008
85500.0	23.7	-47.3		36.6	585.5	77.9	29.8	1.000008
86000.0	23.2	-47.5		35.8	585.2	72.6	32.1	1.000008
86500.0	22.7	-47.2		34.9	585.6	77.4	31.4	1.000008
87000.0	22.2	-46.8		34.1	586.1	72.2	30.7	1.000008
87500.0	21.7	-46.5		33.3	586.5	72.0	30.1	1.000007
88000.0	21.2	-46.2		32.5	586.9	74.3	31.3	1.000007
88500.0	20.7	-45.9		31.7	587.3	75.7	34.3	1.000007
89000.0	20.2	-45.6		31.0	587.7	81.7	37.5	1.000007
89500.0	19.8	-45.3		30.2	588.0	84.4	40.4	1.000007
90000.0	19.3	-45.2		29.5	588.2	86.0	38.6	1.000007
90500.0	18.9	-45.0		28.9	588.4	87.8	36.8	1.000006
91000.0	18.5	-44.9		28.2	588.6	87.8	35.1	1.000006
91500.0	18.1	-44.7		27.6	588.8	91.8	32.1	1.000006
92000.0	17.7	-44.5		26.9	589.0	94.3	28.1	1.000006
92500.0	17.3	-44.4		26.3	589.2	97.5	24.3	1.000006
93000.0	16.9	-44.2		25.7	589.4	102.0	20.5	1.000006
93500.0	16.5	-44.1		25.1	589.6			1.000006
94000.0	16.1	-43.9		24.5	589.8			1.000005
94500.0	15.8	-43.8		24.0	590.0			1.000005
95000.0	15.4	-43.6		23.4	590.2			1.000005
95500.0	15.1	-43.5		22.9	590.4			1.000005
96000.0	14.8	-43.3		22.4	590.5			1.000005
96500.0	14.4	-43.2		21.8	590.8			1.000005

STATION ALTITUDE 4010.40 FEET MSL
23 JULY 82
ASCENSION NO. 21

MANDATORY LEVELS
2040220021
NW 30
TABLE-12

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5120.	26.2	11.2	39.	156.0	2.7	
800.0	6859.	21.1	9.7	48.	121.5	3.4	
750.0	8678.	16.0	7.6	57.	111.6	4.0	
700.0	10588.	11.8	.3	45.	122.2	10.0	
650.0	12606.	7.0	-3.9	46.	114.5	11.9	
600.0	14749.	2.1	-7.5	49.	114.4	11.1	
550.0	17031.	-3.2	-15.7	37.	112.3	12.7	
500.0	19484.	-7.9	-23.6	27.	98.1	15.7	
450.0	22151.	-12.6	-30.1	21.	102.6	18.1	
400.0	25067.	-17.0	-34.5	20.	128.7	24.8	
350.0	28317.	-23.2	-39.1	21.	122.2	22.5	
300.0	31965.	-30.8	-46.3	20.	107.2	23.5	
250.0	36137.	-40.7			105.2	24.5	
200.0	41032.	-49.1			89.0	27.4	
175.0	43865.	-55.6			94.6	33.5	
150.0	47032.	-63.2			110.6	36.0	
125.0	50652.	-69.2			119.3	31.5	
100.0	55017.	-68.7			102.3	28.1	
80.0	59449.	-62.1			112.4	36.0	
70.0	62183.	-59.0			137.7	9.6	
60.0	65356.	-58.1			102.9	37.2	
50.0	69163.	-53.6			95.7	35.4	
40.0	73865.	-54.2			91.0	33.1	
30.0	79989.	-46.4			93.8	32.6	
25.0	83967.	-46.8			74.0	24.5	
20.0	88824.	-45.4			82.9	38.8	
15.0	95147.	-43.4					

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES
32.8927 LAT DEG
106.40591 LON DEG

SIGNIFICANT LEVEL DATA

2040290084

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TABLE-13

STATION ALTITUDE 3912.75 FEET MSL
23 JULY 82 1215 MDT
ASCENSION NO. 84

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	UFWPOINT CENTIGRADE	
285.0	31.8	14.0	34.0
878.9	30.2	13.9	37.0
850.0	26.7	12.7	42.0
780.9	20.5	8.5	46.0
700.0	12.7	5.1	60.0
671.3	9.6	3.1	64.0
654.2	8.1	1.0	61.0
646.1	7.6	-1.4	53.0
624.7	5.5	-2.8	55.0
639.1	4.0	-6.8	45.0
590.7	1.6	-8.5	47.0
564.2	-1.8	-10.1	53.0
555.4	-2.7	-9.8	58.0
546.6	-3.5	-14.5	42.0
537.8	-3.7	-15.6	39.0
517.5	-5.7	-18.0	37.0
500.0	-6.7	-24.8	22.0
458.5	-11.4	-29.3	21.0
443.1	-13.0	-31.2	20.0
437.2	-17.5	-34.5	21.0
406.1	-15.8	-33.5	20.0
400.0	-16.2	-33.9	20.0
367.2	-20.0	-36.1	22.0
339.5	-24.6	-40.5	21.0
318.8	-27.0	-42.6	21.0
300.0	-30.7	-45.8	21.0
281.5	-34.2	-48.4	22.0
250.0	-40.3		
231.6	-43.6		
221.0	-44.4		
200.0	-49.0		
135.0	-51.7		
162.8	-58.4		
150.0	-51.8		
133.0	-67.4		
118.2	-71.5		
111.0	-69.8		
108.5	-66.6		
102.4	-67.8		
100.0	-67.6		

GEODETIC COORDINATES
 37.8927 LAT DEG
 106.40591 LON DEG

SIGNIFICANT LEVEL DATA
 2040290084
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TABLE-13 cont'd

STATION ALTITUDE 3917.75 FEET MSL
 23 JULY 82 1215 MDT
 ASCENSION NO. 84

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
91.0	57159.6	-64.9		
84.3	59695.3	-66.0		
81.4	59400.5	-63.6		
70.0	67490.9	-59.1		
56.5	63556.6	-57.6		
61.6	65146.3	-59.3		
57.0	66756.2	-58.2		
51.7	68799.4	-55.4		
50.0	69508.6	-52.6		
45.1	71722.9	-50.1		

STATION ALTITUDE 3912.75 FEET MSL
 23 JULY 82 1215 MDT
 ASCENSION NO. 84

UPPER AIR DATA
 2040290084
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 TABLE-14

GEODETIC COORDINATES
 32.89927 LAT DEG
 106.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
						KNOTS	KNOTS			
3912.7	885.0	31.8	14.0	34.0	1004.1	682.7	0.0	0.0	0.0	1.000289
4000.0	882.4	31.1	14.0	35.3	1003.4	681.9	173.1	173.1	0.3	1.000289
4500.0	867.4	28.8	13.5	39.0	993.9	679.3	173.1	173.1	2.0	1.000286
5000.0	852.7	27.0	12.9	41.5	983.1	677.2	173.1	173.1	3.6	1.000282
5500.0	838.0	25.7	12.0	42.7	970.8	675.6	169.3	169.3	4.7	1.000276
6000.0	823.6	24.4	11.2	43.5	958.4	674.1	158.1	158.1	4.9	1.000271
6500.0	809.4	23.1	10.3	44.3	946.1	672.5	148.2	148.2	5.8	1.000265
7000.0	795.4	21.8	9.4	45.1	934.0	671.0	141.3	141.3	7.1	1.000260
7500.0	781.7	20.6	8.5	46.0	922.1	669.5	134.1	134.1	7.9	1.000254
8000.0	767.9	19.3	8.1	48.2	909.8	668.0	126.4	126.4	8.9	1.000251
8500.0	754.3	18.0	7.6	50.4	897.7	666.5	118.3	118.3	10.1	1.000247
9000.0	740.9	16.8	7.1	52.7	885.8	665.0	113.7	113.7	11.1	1.000243
9500.0	727.8	15.5	6.5	55.0	874.0	663.5	111.1	111.1	12.3	1.000239
10000.0	715.0	14.2	5.9	57.3	862.5	662.0	110.2	110.2	13.5	1.000235
10500.0	702.3	12.9	5.3	59.6	851.1	660.5	109.4	109.4	15.4	1.000231
11000.0	689.7	11.6	4.4	61.4	839.9	658.9	109.7	109.7	17.3	1.000226
11500.0	677.3	10.3	3.6	63.2	828.8	657.3	111.6	111.6	19.2	1.000222
12000.0	665.0	9.1	2.4	62.9	817.5	655.8	116.3	116.3	20.4	1.000217
12500.0	652.9	8.0	0.7	59.7	805.9	654.5	121.2	121.2	20.7	1.000210
13000.0	641.0	7.1	-1.7	53.5	794.2	653.2	126.8	126.8	19.5	1.000203
13500.0	629.2	5.9	-2.5	54.6	783.0	651.8	130.5	130.5	17.7	1.000199
14000.0	617.6	4.8	-4.6	50.5	772.0	650.4	133.4	133.4	15.9	1.000193
14500.0	606.2	3.6	-7.1	45.3	761.3	648.9	137.1	137.1	15.2	1.000187
15000.0	594.9	2.2	-8.1	46.5	751.2	647.1	137.3	137.3	14.1	1.000184
15500.0	583.8	0.7	-8.9	48.5	741.1	645.4	134.2	134.2	12.6	1.000181
16000.0	572.8	-0.7	-9.5	51.0	730.9	643.7	129.8	129.8	11.4	1.000178
16500.0	562.0	-2.0	-10.0	54.2	720.7	642.1	121.7	121.7	10.8	1.000175
17000.0	551.4	-3.1	-11.8	50.7	710.0	640.8	117.1	117.1	12.0	1.000171
17500.0	540.9	-3.6	-15.2	40.1	698.2	640.0	100.2	100.2	13.9	1.000165
18000.0	530.5	-4.4	-16.5	38.3	686.9	639.0	94.5	94.5	15.7	1.000162
18500.0	520.4	-5.4	-17.7	37.3	676.3	637.8	94.1	94.1	16.0	1.000159
19000.0	510.4	-6.1	-20.4	31.0	665.2	636.9	96.4	96.4	16.0	1.000155
19500.0	500.6	-6.7	-24.5	22.5	654.0	636.2	100.5	100.5	15.8	1.000150
20000.0	490.8	-7.7	-25.8	21.8	643.8	634.9	102.0	102.0	17.2	1.000147
20500.0	481.3	-8.8	-26.8	21.6	633.8	633.6	107.8	107.8	18.8	1.000145
21000.0	471.9	-9.8	-27.8	21.3	624.7	632.3	103.4	103.4	18.9	1.000142
21500.0	462.7	-10.9	-28.8	21.1	614.4	631.0	103.8	103.8	18.4	1.000140
22000.0	453.7	-11.9	-29.9	20.7	604.7	629.8	107.7	107.7	16.6	1.000138
22500.0	444.8	-12.8	-31.0	20.1	594.9	628.7	102.6	102.6	15.4	1.000135
23000.0	435.9	-13.9	-31.8	20.2	585.5	627.4	101.1	101.1	14.6	1.000133

UPPER AIR DATA
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STATION ALTITUDE 3912.75 FEET MSL
23 JULY 82 1215 MDT
ASCENSION NO. 84

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

TABLE-14 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	427.2	-14.9	-32.6	20.4	576.2	626.1	106.1	15.4	1.000171
24000.0	418.7	-16.0	-33.4	20.7	567.1	624.8	116.8	17.0	1.000126
24500.0	410.4	-17.1	-34.2	20.9	558.2	623.5	125.4	20.1	1.000126
25000.0	402.2	-16.0	-35.7	20.0	544.7	624.8	137.0	22.1	1.000123
25500.0	394.1	-16.9	-34.2	20.3	535.5	623.8	141.4	22.9	1.000121
26000.0	386.2	-17.6	-34.8	20.8	526.6	622.7	147.9	21.8	1.000119
26500.0	378.4	-18.7	-35.3	21.3	517.9	621.6	137.4	20.5	1.000117
27000.0	370.8	-19.6	-35.9	21.8	509.3	620.5	134.1	19.6	1.000115
27500.0	363.3	-20.6	-36.8	21.9	501.0	619.2	128.0	20.6	1.000113
28000.0	355.8	-21.8	-37.9	21.6	493.2	617.7	122.9	22.0	1.000111
28500.0	348.6	-23.1	-39.1	21.3	485.4	616.2	127.6	24.8	1.000109
29000.0	341.4	-24.3	-40.2	21.1	477.8	614.7	118.8	27.6	1.000108
29500.0	334.4	-25.2	-41.0	21.0	469.7	613.5	116.7	29.1	1.000106
30000.0	327.4	-26.0	-41.7	21.0	461.4	612.5	114.9	30.6	1.000104
30500.0	320.6	-26.8	-42.4	21.0	453.3	611.5	112.7	31.3	1.000102
31000.0	313.9	-27.9	-43.4	21.0	445.9	610.1	109.8	32.0	1.000100
31500.0	307.3	-29.2	-44.5	21.0	438.9	608.5	109.6	34.1	1.000098
32000.0	300.9	-30.5	-45.6	21.0	432.0	606.9	109.6	36.2	1.000097
32500.0	294.5	-31.7	-46.5	21.3	424.9	605.4	110.8	35.5	1.000095
33000.0	288.2	-32.9	-47.4	21.6	417.9	603.9	112.2	34.5	1.000094
33500.0	282.1	-34.1	-48.3	22.0	411.0	602.4	113.6	30.5	1.000092
34000.0	276.0	-35.2	-50.8	18.3**	404.0	600.9	115.5	26.3	1.000090
34500.0	270.0	-36.4	-53.9	14.2**	397.1	599.5	117.3	25.1	1.000089
35000.0	264.1	-37.5	-57.5	10.2**	390.4	598.1	119.1	24.1	1.000087
35500.0	258.4	-38.6	-62.3	6.1**	383.7	596.6	119.8	25.2	1.000086
36000.0	252.7	-39.7	-71.0	2.0**	377.2	595.2	115.9	25.5	1.000084
36500.0	247.2	-40.8			370.6	593.9	116.5	24.1	1.000083
37000.0	241.7	-41.8			363.9	592.6	117.4	23.0	1.000081
37500.0	236.4	-42.7			357.3	591.4	105.4	22.4	1.000080
38000.0	231.1	-43.6			350.8	590.2	99.2	23.6	1.000078
38500.0	225.9	-44.0			343.5	589.2	94.5	25.5	1.000077
39000.0	220.9	-44.4			336.4	589.2	67.8	26.6	1.000075
39500.0	215.3	-45.5			330.3	587.8	87.7	28.5	1.000074
40000.0	210.0	-46.5			324.4	586.5	87.6	30.6	1.000072
40500.0	206.2	-47.6			318.5	585.1	86.5	32.9	1.000071
41000.0	201.5	-48.6			312.8	583.7	97.9	33.5	1.000070
41500.0	197.0	-49.5			306.8	582.6	99.7	34.1	1.000068
42000.0	192.4	-50.3			300.9	581.5	101.2	33.4	1.000067
42500.0	188.0	-51.1			295.0	580.5	107.2	33.4	1.000066
43000.0	183.7	-52.1			289.4	579.2	107.1	34.3	1.000064

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 5912.75 FEET MSL
23 JULY 82 1215 MDT
ASCENSION NO. 84

UPPER AIR DATA
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TABLE-14 cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	179.4	-53.3		284.2	577.6	103.4	35.2	1.000063
44000.0	175.2	-54.6		279.2	576.5	104.2	35.6	1.000062
44500.0	171.0	-55.8		274.2	574.3	106.4	36.0	1.000061
45000.0	167.0	-57.1		269.3	572.7	110.6	36.4	1.000060
45500.0	163.1	-58.3		264.5	571.0	115.0	37.0	1.000059
46000.0	159.2	-59.3		259.4	569.7	118.0	37.7	1.000058
46500.0	155.4	-60.3		254.4	568.3	120.2	38.4	1.000057
47000.0	151.7	-61.3		249.4	567.0	121.6	38.8	1.000056
47500.0	148.0	-62.4		244.6	565.5	121.5	38.2	1.000054
48000.0	144.3	-63.6		239.9	564.0	121.3	37.7	1.000053
48500.0	140.8	-64.7		235.4	562.4	120.4	36.9	1.000052
49000.0	137.3	-65.9		230.9	560.8	119.4	36.1	1.000051
49500.0	134.0	-67.1		226.5	559.3	117.7	35.5	1.000050
50000.0	130.6	-68.0		221.9	558.0	117.7	35.0	1.000049
50500.0	127.4	-68.9		217.2	556.8	114.6	34.5	1.000048
51000.0	124.2	-69.8		212.7	555.5	113.8	34.0	1.000047
51500.0	121.1	-70.7		208.3	554.3	112.5	33.3	1.000046
52000.0	118.0	-71.4		203.8	553.3	110.7	32.7	1.000045
52500.0	115.0	-70.8		198.0	554.2	108.9	32.2	1.000044
53000.0	112.1	-70.1		192.4	555.2	107.0	31.7	1.000043
53500.0	109.3	-67.7		185.4	558.4	105.6	30.8	1.000041
54000.0	106.6	-67.0		180.1	559.4	105.0	29.2	1.000040
54500.0	104.0	-67.5		176.1	558.7	105.0	27.7	1.000039
55000.0	101.4	-67.7		171.9	558.4	107.8	26.8	1.000036
55500.0	98.9	-67.3		167.3	559.0	112.8	26.0	1.000037
56000.0	96.4	-66.6		162.6	560.0	112.9	26.4	1.000036
56500.0	94.1	-65.8		158.0	560.9	114.0	26.8	1.000035
57000.0	91.7	-65.1		153.6	561.9	112.1	26.5	1.000034
57500.0	89.5	-65.1		149.8	561.9	112.9	26.7	1.000033
58000.0	87.2	-65.5		146.4	561.4	112.7	26.2	1.000033
58500.0	85.1	-65.9		142.1	560.9	112.1	26.1	1.000032
59000.0	83.0	-65.0		138.9	562.1	112.4	26.0	1.000031
59500.0	81.0	-63.5		134.6	564.1	112.4	25.8	1.000030
60000.0	79.1	-62.7		130.9	565.1	112.9	25.7	1.000029
60500.0	77.1	-62.0		127.3	566.1	112.9	25.8	1.000028
61000.0	75.2	-61.5		123.8	567.1	114.1	25.9	1.000028
61500.0	73.5	-60.5		120.4	568.0	112.0	26.0	1.000027
62000.0	71.7	-59.8		117.1	569.0	112.9	26.1	1.000026
62500.0	70.0	-59.1		113.2	570.0	116.7	26.7	1.000025
63000.0	68.3	-58.4		112.3	570.9	117.5	26.5	1.000025

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LONG DEG

UPPER AIR DATA
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TABLE-14 cont'd

STATION ALTITUDE 3912.75 FEET MSL
23 JULY 82 1215 MDT
ASCENSION NO. 84

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	66.7	-57.7		107.8	571.9	119.3	25.6	1.000074
64000.0	65.1	-58.1		105.4	571.3	119.7	24.7	1.000073
64500.0	63.5	-58.6		103.2	570.6	119.0	22.9	1.000023
65000.0	62.0	-59.1		101.0	569.9	115.4	21.3	1.000022
65500.0	60.6	-59.1		98.5	570.0	116.7	20.8	1.000022
66000.0	59.1	-58.7		96.0	570.5	123.5	22.4	1.000071
66500.0	57.7	-58.4		93.6	570.9	127.6	24.2	1.000021
67000.0	56.3	-57.9		91.2	571.6	109.4	25.1	1.000070
67500.0	55.0	-57.2		88.7	572.5	97.9	28.3	1.000020
68000.0	53.7	-56.5		86.4	573.4	87.5	31.3	1.000019
68500.0	52.4	-55.8		84.1	574.3	75.2	34.8	1.000019
69000.0	51.2	-54.6		81.6	575.9	75.7	34.7	1.000018
69500.0	50.0	-52.6		79.0	578.5	85.4	31.0	1.000018
70000.0	48.9	-52.0		77.0	579.3			1.000017
70500.0	47.7	-51.5		75.0	580.0			1.000017
71000.0	46.6	-50.9		73.1	580.8			1.000016
71500.0	45.6	-50.4		71.3	581.5			1.000016

STATION ALTITUDE 3912.75 FEET MSL
 23 JULY 82 1215 MDT
 ASCENSION NO. 84

MANDATORY LEVELS
 2040290084
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 TABLE-15

GEODETIC COORDINATES
 32.89927 LAT DEG
 106.40591 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
950.0	5089.	26.7	17.7	42.	175.1	3.9
900.0	6834.	22.3	9.7	45.	147.5	6.7
750.0	8662.	17.6	7.4	51.	116.5	10.5
700.0	10583.	12.7	5.1	60.	109.2	15.7
650.0	12608.	7.8	-2.	57.	122.4	20.4
600.0	14759.	2.8	-7.6	46.	135.9	14.8
550.0	17043.	-3.2	-12.6	48.	109.0	12.2
500.0	19502.	-6.7	-24.8	72.	100.6	15.8
450.0	22172.	-12.3	-30.3	20.	103.6	15.9
400.0	25095.	-16.2	-33.9	20.	138.7	22.7
350.0	28353.	-22.9	-38.8	21.	121.1	24.2
300.0	32006.	-30.7	-45.8	21.	109.7	36.4
250.0	36169.	-40.3			119.3	24.8
200.0	41072.	-49.0			94.7	33.8
175.0	43916.	-54.6			104.9	35.6
150.0	47097.	-61.8			121.6	38.5
125.0	50728.	-69.6			114.1	34.1
100.0	55102.	-67.6			109.7	26.4
50.0	59555.	-63.1			113.	25.8
70.0	62276.	-59.1			116.6	26.3
60.0	65455.	-58.9			119.5	21.2
50.0	69246.	-52.6			84.9	31.2

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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